Petr Stepanov

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> Ph.D. graduate in physics with a focus in GUI software development. More than 5 years in website and web application development. Strong user interface (UI) and user experience (UX) design skills.

Summary of Qualifications

- Application of the Machine Learning (AI) for classification of the experimental data.
- Strong Object Oriented Programming (OOP) skills. Debugging and bug fixing code in modern IDEs.
- Delivering production ready software written in compiled languages (C++, CMake, GNU Makefiles).
- BASH scripting on High-Performance Computing (HPC) Linux environment.
- 5+ years of user interface programming (UI) with Model-View patterns (MVC, MVP). State-oriented programming.
- 3+ years in building responsive web apps with modular JavaScript, HTML, and CSS.
- 6+ years of UI and UX wireframing and interactive prototyping for web and mobile applications (Figma, Sketch).

Work Experience

Full-Stack Developer

Sticker Store LLC, Portland, OR. *Feb 2023 - Current*

- Designed and programmed online e-commerce store (Figma, HTML, CSS, Bootstrap, SASS, Express.JS, EJS, Node.js).
  - Improved the Google PageSpeed Insights metrics (CLS, LCP) up to 97%.
  - Set up low frequency keyword campaign on Google Analytics.
  - Exported local product database to Google Merchant.

C++ Software Developer

Thomas Jefferson National Laboratory (JLab), Newport News, VA. *Jul 2020 - Jan 2023*

- Coded a Geant4-based simulation for studying the optimal light guide length (range 0-10 cm) for the EM calorimeter used in the Electron-Ion-Collider (EIC) project. Link to GitHub.
- Used Machine Learning (ML) techniques to perform binary classification of thousands of signals from a data acquisition (DAQ) setup. Link to GitHub.
- Applied CERN ROOT framework (C++) to perform statistical analysis of a significant amount (over 100 GB) of the raw experimental data of the Kaon LT experiment at JLab. Link to GitHub.
- Utilized SLURM functionality on the High-Performance Computing (HPC) environment to execute a series of simulations in parallel. This reduced the wall time by more than 10 times.
- Set up data acquisition system that performs triggered waveform acquisition involving 3 devices - Tektronix oscilloscope, Network Attached Storage, and RedHat computer (SAMBA, Python, National Instruments NI-VISA library).
- Contributed 100+ shifts at Hall C at the Thomas Jefferson Particle Accelerator facility for the Pion LT project.

Software Developer • Postdoctoral Researcher

Catholic University of America (CUA), Washington, DC. *Jul 2020 - Jan 2023*

- Programmed a Geant-4 computer simulation (C++, CMake, Eclipse IDE, gdb) to study the performance of a novel scintillation material for EIC, Brookhaven National Lab. Link to GitHub.
- Visualized energy deposition profiles and calculated energy resolutions for a variety of detector assemblies.
- Teaching experience. Mentoring students within a 3-month Research Experiences for Undergraduates (REU) program at the Physics Department at CUA.
- Enhanced debugging of the CERN library source code led to the publishing of more than 10 bug reports on the ROOT (C++) forum.

Frontend Developer, UI/UX Designer • Freelance *Sep 2012 - May 2020*

- Made iOS application (Swift, UIkit, storyboards) for the We.Team messenger (more than 3k monthly downloads in AppStore). Participated in cloud-based messenger development with enhanced file sharing capabilities (HTML, React JS,

SASS).

- Migrated the landing page for Sweetbridge company from WordPress to Jekyll static site generator (Ruby, CSS). This resulted in a 70% improvement in the page load time.
- Developed the website front-end (Angular.js, HTML, LESS) and iOS mobile application (Ionic) for the Lili Social network.
- Web design.
  - Designed logos, UI/UX prototypes (Figma, Sketch, Illustrator) and branding identity for over 10 different companies.
  - Converted numerous design assets and mockups into responsive HTML and CSS.
  - Mocked up and integrated dozens of cross-browser responsive email templates.

Education

Bowling Green State University (BGSU) • OH, United States *Aug 2014 - May 2020*

Ph.D. in Photochemical Sciences • GPA 3.423. Dissertation: Novel developments in positron spectroscopy (PAS).

British Higher School of Art and Design (BHSAD) • Moscow, Russia *Dec 2011 - Feb 2012*

Three-month intensive in Graphical Design and Visual Communications (illustration, lettering, brand identity).

National Research Nuclear University (MEPhI) • Moscow, Russia *Sep 2004 - Feb 2011*

B.S. and M.S. in Solid State Physics. Thesis: application of PAS for defect concentration studies in bulk materials.

Professional Networks

- Find examples of my code on GitHub (50+ repositories).
- Discover my professional contacts on LinkedIn (200+ connections).
- Check out my UI and UX design portfolio on Dribbble (50+ shots).

Relevant Interests

- Hosting an open-source project for keyboard remapping on Linux 300+ stars on GitHub.
- Developed a RAMDisk plugin for Linux that provides 50% increase in source code indexing time.
- Created two shared libraries for the ROOT data analysis framework [1, 2].